MDX71, MDX81, MDX91 Disc Mowers

Repair Manual

87023825

CASE IH

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SECTION 00 - GENERAL INFORMATION

Chapter 1 - General Information

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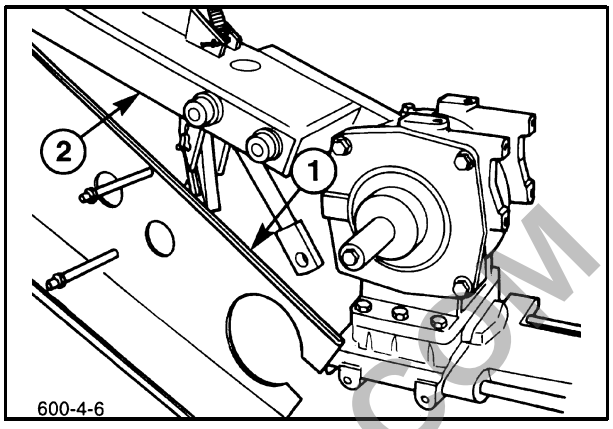
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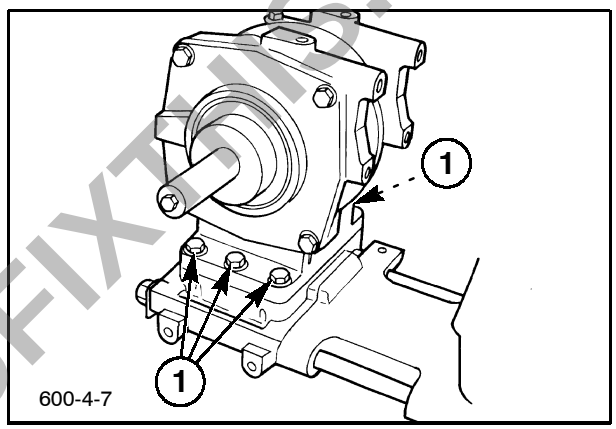
13. Slide the inner shield, 1, out of the way, if it has not been previously removed. Pry the rear pivot arm off of the mounting bosses on the lift arm, slide it off of the gearbox cover and set it aside. Block under the lift arm, 2, to support it, and slide the cutter bar rearward to remove the forward pivot arm from the gearbox.

NOTE: *Support the lift arm while sliding the cutter bar rearward so that it does not drop to the floor damaging the pivot arm.*



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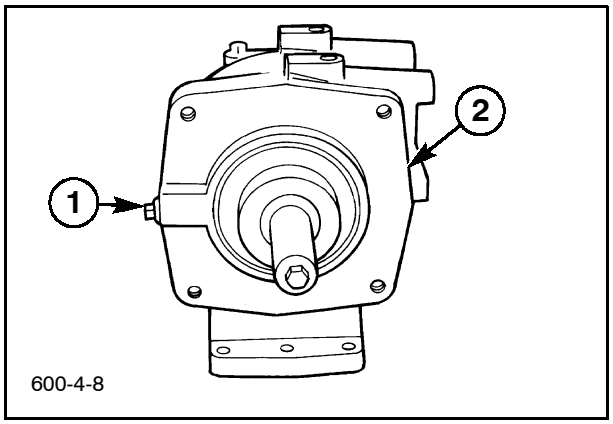
14. Remove the six cap screws, 1, that retain the bevel gearbox to the drive module, and lift the bevel gearbox off of the cutter bar.



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DISASSEMBLY

1. Drain oil from the gearbox by removing the drain plug, 1, and positioning unit over a drain pan.
2. Remove the four cover retaining bolts, and tap the cover plate, 2, off of the gearbox using a hammer and soft punch. Use caution to prevent damaging the shims installed between the cover plate and the housing.



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MINIMUM HARDWARE TIGHTENING TORQUES

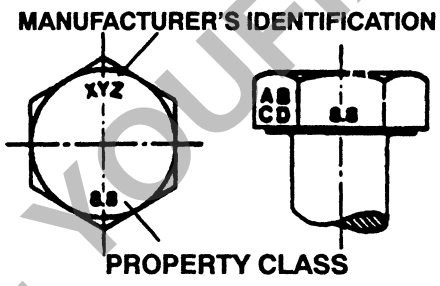
IN NEWTON-METERS (FOOT POUNDS) FOR NORMAL ASSEMBLY APPLICATIONS

METRIC HARDWARE AND LOCKNUTS

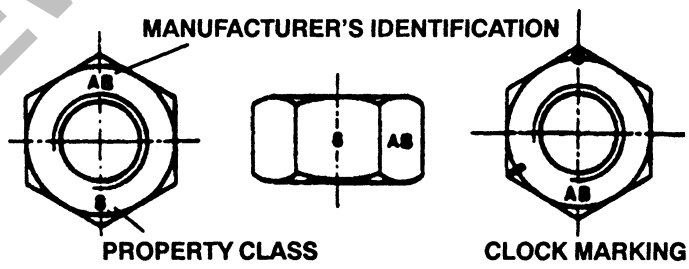
	CLASS 5.8		CLASS 8.8		CLASS 10.9		LOCKNUT
NOMINAL SIZE	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	CL.8 w/CL8.8 BOLT
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8	14 (124*)	18 (159*)	22 (195*)	28 (248*)	31 (274*)	40 (354*)	15 (133*)
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	30 (22)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	53 (39)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	131 (97)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	265 (195)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	458 (338)

NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION
HEX CAP SCREW AND CARRIAGE BOLTS
CLASSES 5.6 AND UP



HEX NUTS AND LOCKNUTS
CLASSES 05 AND UP



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PROBLEM	POSSIBLE CAUSE	CORRECTION
Vibration.	PTO shaft or U-joint damage.	Inspect and repair PTO shaft.
	Material buildup in cutter bar drums.	Remove top cover and clean out drums.
	Cutter bar components damaged or missing.	Inspect and repair components.
Cutter bar not floating.	Main frame setting incorrect.	Adjust check chains to carry main frame 18″ (450 mm) from ground and parallel.
	Cutter bar pivot points binding.	Clean and lubricate pivot points.
	Flotation system not engaged.	Install jack pin into flotation spring upper rod.
	Flotation spring adjustment.	Adjust flotation spring tension.
	High stubble kit installed.	Readjust check chains to carry main frame 20″ (508 mm) from ground and parallel.
Machine breaking back too easily.	Insufficient tension on breakaway spring.	Tighten breakaway spring until nut bottoms out.
	Ground speed too fast for crop conditions.	Reduce ground speed.
	Insufficient cutter bar flotation.	Check and adjust flotation system.
Difficulty in obtaining correct angle on cutter bar.	Lack of adjustment on top link.	Reposition top link to rear hole in main frame.
Uneven stubble/streaking.	Too much tilt on cutter bar.	Reduce tilt.
	Low PTO speed.	Run PTO at 540 RPM. (Do not over-speed)
	Excessive forward speed.	Reduce forward speed.
	Knives dull or broken.	Install new knives.
	Knives stuck under disc.	Straighten or replace knives.
	Knives installed on wrong discs.	Install knives on correct discs.
	Drive belt loose.	Tighten drive belt spring to correct length.

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SPECIFICATIONS

	MDX71	MDX81	MDX91
Cutter Bar			
Cutting Width	2040 mm (6′8″)	2400 mm (7′10″)	2800 mm (9′2″)
Cutting Height	32 - 89 mm (1.25 - 3.5″)	32 - 89 mm (1.25 - 3.5″)	32 - 89 mm (1.25 - 3.5″)
Cutter Bar Tilt Angle	0 to -10°	0 to -10°	0 to -10°
Cutter Bar Operating Range	+18 to –32°	+18 to –30°	+18 to –28°
Breakaway Angle	19°	30.5°	30.5°
Type	Modular	Modular	Modular
No. of Discs	5	6	7
Knives Per Discs	2	2	2
Disc Cutting Diameter	500 mm (19.7″)	500 mm (19.7″)	500 mm (19.7″)
Disc Drive	Bevel gears in sealed modules	Bevel gears in sealed modules	Bevel gears in sealed modules
Disc Speed	3000 RPM	3000 RPM	3000 RPM
Driveline			
PTO HP Required - (minimum)	45	55	60
Input Speed	540 RPM	540 RPM	540 RPM
Driveline Protection	Belt drive to cutter bar, overrunning clutch on PTO shaft	Belt drive to cutter bar, overrunning clutch on PTO shaft	Belt drive to cutter bar, overrunning clutch on PTO shaft
Belt Tension	Spring loaded tensioner w/ adjustment gauge	Spring loaded tensioner w/ adjustment gauge	Spring loaded tensioner w/ adjustment gauge
Hydraulics and Hitch			
Hydraulic Circuits Required	One remote	One remote	One remote
Minimum Relief Pressure Required	104 bar (1500 PSI)	104 bar (1500 PSI)	104 bar (1500 PSI)
Hitch	Category I	Category II	Category II
Dimensions and Weight			
Overall Width	3524 mm (138.75″)	4070 mm (160.25″)	4616 mm (181.75″)
Overall Length	1283 mm (50.5″)	1283 mm (50.5″)	1283 mm (50.5″)
Height, Transport Position*	2489 mm (98″)	3035 mm (119.5″)	3581 mm (141″)
Weight	546 kg (1200 lbs.)	639 kg (1405 lbs.)	698 kg (1535 lbs.)

* Transport height is based on hitch pins being 609 mm (24″) above ground on Model MDX71 and 457 mm (18″) above ground on Models MDX81 and MDX91 as specified earlier in this manual.

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ATTACHING THE MOWER TO THE TRACTOR

Attaching the mower to the tractor in preparation for operation includes the following:

- Attaching the limit chains
- Attaching the mower to the tractor's three-point hitch
- Fitting the PTO to the tractor and attaching the PTO
- Connecting the mower's hydraulic system
- Removing the jack stand
- Adjusting the limit chains and height of the hitch.

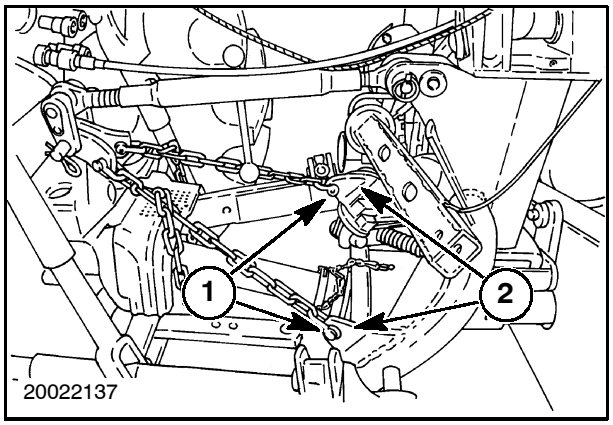
Before attaching the mower's three-point hitch for some models, the hitch pins must be relocated from side-to-side so that the alignment of the mower is proper considering the tractor's tread width.

Attachment of the limit chains to the mower hitch differs on some models.

Attaching the Model MDX71

1. Clean all paint or rust from the hitch pins.
2. Attach the mower hitch limit chains.

- Attach a clevis, 1, to one end of the limit chain. Attach the clevis with a 1/2″ x 2″ clevis pin to the limit chain tab, 2, on each arm of the hitch. Secure each clevis pin with a 1/8″ x 1″ cotter pin.



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PRECAUTIONARY STATEMENTS

PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements ("**DANGER**", "**WARNING**", and "**CAUTION**") followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.

⚠ DANGER ⚠

This word "DANGER" indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.

⚠ WARNING ⚠

This word "WARNING" indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.

⚠ CAUTION ⚠

This word "CAUTION" indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

FAILURE TO FOLLOW THE "DANGER", "WARNING", AND "CAUTION" INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

MACHINE SAFETY

The precautionary statement ("**IMPORTANT**") is followed by specific instructions. This statement is intended for machine safety.

IMPORTANT: *The word "IMPORTANT" is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.*

INFORMATION

NOTE: *Instructions used to identify and present supplementary information.*

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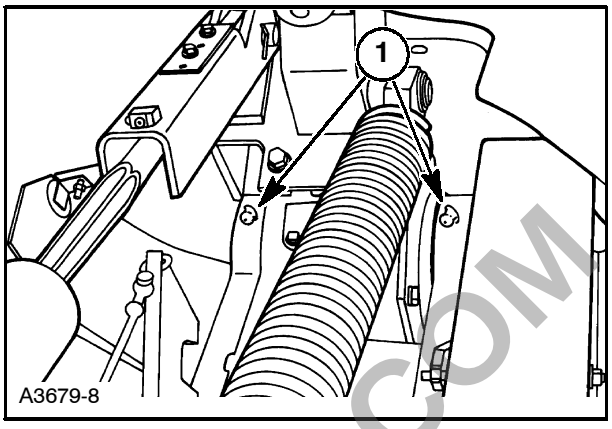
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Grease the cutter bar pivots, 1, daily.

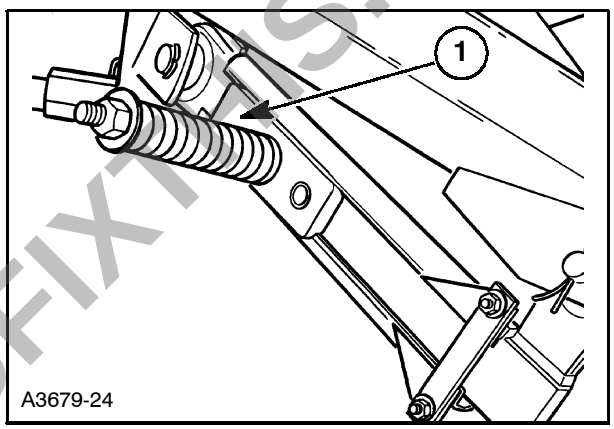
Pump grease into pivots until grease can be seen coming out past seals.

NOTE: *Grease zerks are located on both top and bottom of pivot arms.*



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Grease the breakaway pawl, 1, every 40 hours.

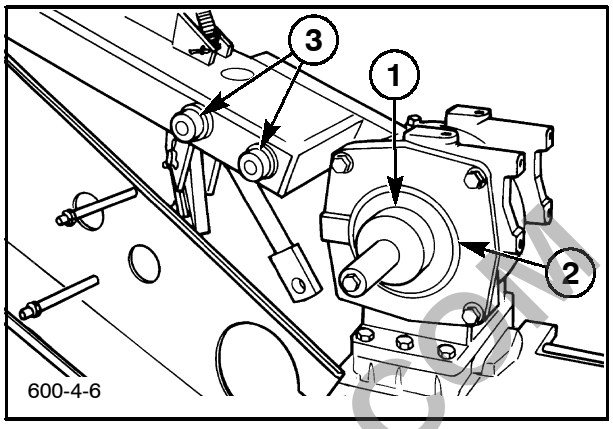


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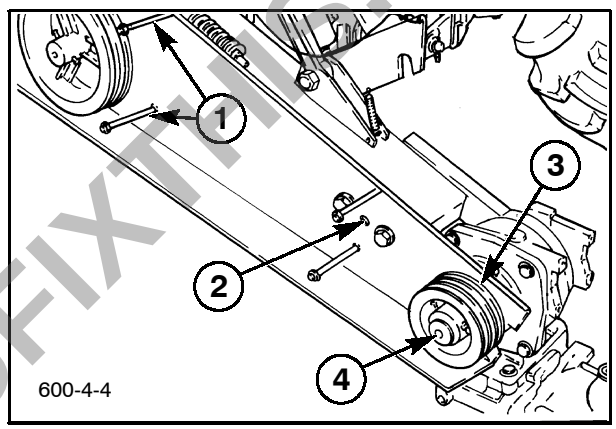
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4. Apply grease to the remaining “T-seal” washer, and install it on the bevel gearbox rear pivot hub, 1, so that it fits into the groove, 2. Install the rear pivot arm by sliding it over the input shaft onto the gearbox pivot hub, and at the same time fitting it over the two mounting bosses, 3, on the lift arm. Install the 3/4″ Grade 8 cap screws and torque to 413 ft lbs (560 N·m) to retain the pivot arm.



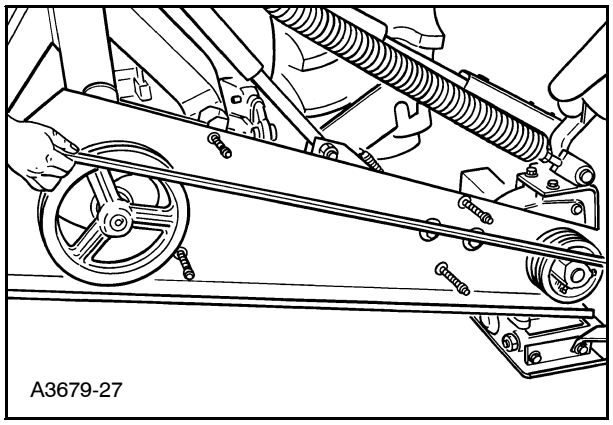
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5. Slide the inner shield over the bevel gearbox input shaft, and secure it by installing the left side studs, 1, and jam nuts, and the 3/8″ cap screw, 2, and washer.
6. Install the key into the keyway on the bevel gearbox input shaft, and slide the sheave, 3, onto the input shaft over the key.



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7. Use a long straightedge to align the sheave to the drive sheave; the two sheaves should be aligned within 1/16″. Tighten the two set screws securely, and tighten the jam nuts. After the sheave is tightened to the shaft, install the cap screw, 4, Figure 27, and washer in the end of the shaft. Block the cutter bar, and tighten the cap screw.



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